DOCUMENT RESUME

ED 031 448 SP 002 940

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The Relationship Between Personality and Teaching Behavior Before and After Inservice Microteaching Training.

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Spons Agency-Office of Education (DHEW), Washington, D.C. Bureau of Research.
Bureau No-BR-6-2931
Pub Date Mar 69
Contract-OEC-4-7-062931-3064
Note-12p.
EDRS Price MF-$0.25 HC-$0.70
Descriptors-Elementary School Teachers, *Microteaching, Personality, *Teacher Behavior, *Teacher Characteristics
Identifiers-Edwards Personal Preference Schedule, Rokeach Dogmatism Scale

A study was conducted to determine whether personality variables are correlated with specific teaching behaviors as measured before and after a minicourse ("Effective Questioning in a Classroom Discussion," a self-contained package of instructional materials in which teaching skills, which the teacher practices by microteaching, are defined in terms of specific behaviors). The Edwards Personal Preference Schedule and the Rokeach Dogmatism Scale were administered to 16 male and 32 female elementary school teachers before they took the minicourse. Teaching behavior was measured while each teacher taught a 20-minute videotaped lesson in his regular classroom before and after the minicourse. Videotapes were scored by trained raters on six behaviors. Seventeen personality variables were correlated with the six teaching behaviors before and after the minicourse. For females the number of statistically significant correlations was not more than would be expected by chance alone, but for males there were 23 before the minicourse and nine after. Implications are that personality has relatively little effect on the teaching behavior of females but that it has a relatively strong effect on that of males and that training programs such as the minicourse may reduce individual differences in style, thereby partially cancelling out the effect of personality dispositions. (JS)

ED031448

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

THE RELATIONSHIP BETWEEN PERSONALITY AND TEACHING BEHAVIOR BEFORE AND AFTER INSERVICE MICROTEACHING TRAINING

by

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Hotel Claremont
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March, 1969

SP002940

The work reported herein was performed pursuant to a contract with the United States Department of Health, Education and Welfare, Office of Education.

THE RELATIONSHIP BETWEEN PERSONALITY AND TEACHING BEHAVIOR BEFORE AND AFTER INSERVICE MICROTEACHING TRAINING

The Problem

The Far West Laboratory for Educational Research and Development is one of twenty regional laboratories established recently by the Office of Education. A primary objective of these laboratories is to develop educational products which translate the findings of basic research into immediate classroom applications.

The minicourse is one of the main products developed to date by our laboratory (Borg et al., 1968, 1969). The minicourse is a self-contained package of instructional materials which inservice teachers can use to increase their teaching skills. These teaching skills are defined in terms of specific behaviors, and the teacher practices them by microteaching. In microteaching, the teacher studies one or two classroom skills, then practices them in a 5 to 10 minute videotaped lesson taught to four or five students. Afterwards, the teacher views the videotape and evaluates his or her use of these behaviors. The value of microteaching is that it simplifies the complexities of the usual classroom situation and thus makes it easier for the teacher to learn new skills and to receive immediate videotaped feedback on his or her performance.

The first minicourse produced by the Far West Laboratory is titled Effective Questioning in a Classroom Discussion, and it contains twelve teaching skills. When the course was being field tested, we considered the possibility that it might help some teachers but not others. Therefore, we administered two personality measures, the Edwards Personal

Preference Schedule and the Rokeach Dogmatism Scale, to the teachers in the main field test. It was thought that the variables measured by these instruments might discriminate between teachers who showed greater and lesser behavioral change as a result of the minicourse.

However, it was found that most of the teachers showed considerable behavioral change, as shown in Table 1. Since this was the case, we felt it was not meaningful to investigate whether personality variables would predict extent of behavioral change. Consequently we decided to study whether personality variables are correlated with specific teaching behaviors as measured before and after the minicourse. We felt that such an investigation would be worthwhile since most studies of this type have correlated personality variables with global impressionistic ratings of teaching behavior rather than with specific, behaviorally-defined teaching skills.

Method

The Edwards Personal Preference Schedule and the Rokeach Dogmatism Scale were administered to 16 male and 32 female elementary school teachers before they took the minicourse. The Edwards measures 16 personality needs, including need for achievement, autonomy, affiliation, and consistency. The Rokeach purports to measure the extent to which the person is closed-minded or authoritarian. Teaching behavior was measured in the following way. Each teacher taught a 20 minute videotaped lesson in his or her regular classroom before and after the minicourse. These videotapes were scored by trained raters who did not know whether a given videotape was pre- or post-course. Although 13 teaching behaviors were scored, only six of them will concern us here. They are listed in Table 2: the frequency with which the teacher redirected a question to more than one student; the frequency with

which the teacher asked a prompting or clarification question in order to help a student improve his response; the frequency with which the teacher answered his own question; the percentage of higher-cognitive questions asked by the teacher; and the percentage of teacher talk relative to the total amount of talk in the classroom.

Results

The 17 personality variables were correlated with the six teaching behaviors before and after the minicourse. The number of statistically significant correlations that resulted are presented in Table 2. For females, the number of statistically significant correlations is not more than would be expected by chance alone. It appears, then, that the teaching behavior of females is not influenced by their personality either before or after the training program that we provided them.

A much different situation was found for male teachers. Table 2 shows that prior to the minicourse, there were 23 statistically significant correlations between personality variables and teaching behaviors. Eight of these were significant at the .10 level, ten at the .05 level, and five at the .01 level. Table 3 presents the actual correlation coefficients for percentage of teacher talk and answering one's own questions, which is a negative teacher behavior.[1] We find that the more a male teacher talks in a class discussion, the more likely is he to be achievement-oriented, autonomous, non-affiliative, aggressive, authoritarian, and needing

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[1] These teaching behaviors were selected for presentation since they demonstrated the most number of correlations with the personality variables.

consistency. This personality description is consistent with the view that the teacher with a high percentage of talk is one who dominates his class discussions by talking a lot at the expense of student participation. The personality characteristics of male teachers prone to answer their own questions are similar. Table 3 shows that they are likely to be achievement-oriented, non-affiliative, non-giving, and have a need for consistency.

When we look at the relationship between personality variables and teaching behaviors for male teachers after the minicourse experience, we are confronted with an interesting finding. Whereas there were 23 statistically significant correlation coefficients before the minicourse, afterwards the number drops to nine and the levels of significance are not powerful. None are significant at the .01 level, only one is significant at the .05 level, and the other eight are significant at the .10 level.

The number of statistically significant correlations for the sample of male teachers may be spuriously high if the six teacher behaviors are not independent of each other. Table 4 shows that the six behaviors are moderately but not highly intercorrelated with each other before and after the minicourse. Therefore, the large number of statistically significant correlations does not seem to be due to many teaching variables measuring a single factor.

Since a decrease in variance will reduce the magnitude of a correlation, we may wonder whether the weakening of the correlations between personality and teaching variables for males can be attributed to smaller variances in the teaching behaviors after the minicourse. This is in fact the case for four of the teaching behaviors. Variances for relevant teaching variables before and after the minicourse are: prompting (pre, 25.0; post, 9.0); answering own question (pre, 12.3; post, 2.56); percentage of

higher-cognitive questions (pre, 26.0; post, 10.2); percentage of teacher talk (pre, 204.5 ; post, 81.0).* On the basis of this finding, the data were analyzed further and it was found that the decreased magnitude of many of the correlations could be attributed at least in part to the decreased variance in these teaching behaviors after the minicourse.

Discussion

In discussing the significance of the findings, we should note first that this is one of the few studies in which personality has been related to specific, behaviorally-defined teaching skills rather than global, impressionistic ratings of teaching competence. When this procedure is used, we find that personality has relatively little effect on the teaching behavior of females but that personality has a relatively strong effect on the teaching behavior of male teachers. However, we also find that after the minicourse, the effect of personality on teaching behavior for males is considerably diminished. Why is this? It may be that if male teachers do not have training in specific discussion skills, their teaching style will be a reflection of general personality dispositions. The effect of training programs such as the minicourse may be to reduce individual differences in teaching style for male teachers and thereby in part cancel out the effect of these personality dispositions.

In conclusion, we should note three limitations of the study. First, no control group was used and the number of cases in the sample of male teachers was small. Also, the teaching behaviors studied represent only one domain of the teaching enterprise. Thus, further research would be

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* The difference between each of these variances is statistically significant at the .05 level or lower by the F ratio.

needed to strengthen the confidence we can place in the present findings and their interpretation. Since sex of teacher moderated the relationships found in this study, care should be taken in the future to analyze data for male and female teachers separately.

References

Borg, Walter, Kallenbach, Warren, Kelley, Marjorie, & Langer, Philip. The minicourse: Rationale and uses in the inservice education of teachers. Paper presented at the annual meeting of the American Educational Research Association, Chicago, 1968.

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TABLE 1

Preliminary Results From Analysis of Minicourse 1[1]
Pre-course tapes and Post-course tapes (N=48)

	Behavior Compared	Pre Tape Mean	Post Tape Mean	t	Sig. Level
1.	Number of times teacher used redirection.	26.69	40.92	4.98	.001
2.	Number of times teacher used prompting.	4.10	7.17	3.28	.001
3.	Number of times teacher used further clarification.	4.17	6.73	3.01	.005
4.	Number of times teacher used refocusing.	.10	.02	.00	NS
5.	Number of times teacher repeated his/her own questions.	13.68	4.68	7.26	.001
6.	Number of times teacher repeated pupil answers.	30.68	4.36	11.47	.001
7.	Number of times teacher answered his/her own questions.	4.62	.72	6.88	.001
8.	Length of pupil responses in words (based on 5 minute samples of pre and post tapes)	5.63	11.78	5.91*	.001
9.	Number of 1-word pupil responses (based on 5 minute samples of pre and post tapes).	5.82	2.57	3.61*	.001
10.	Length of teacher's pause after question (based on 5 minute samples of pre and post tapes).	1.93	2.32	1.90	.05
11.	Frequency of punitive teacher reactions to incorrect pupil answers	.12	.10	.00	NS
12.	Proportion of total questions that called for higher cognitive pupil responses.	37.30	52.00	2.94	.005
13.	Proportion of discussion time taken by teacher talk.	51.64	27.75	8.95	.001

* Means would have been approximately 4 times larger if entire tapes had been analyzed, t-test would have been higher.

[1]This table is taken from Borg, Walter R. (1969)

TABLE 2

Number of Statistically Significant Correlations
Between 17 Personality Variables and 6 Teaching Behaviors[1]

MALES (N=16)

Behavior	Pre-Tape .10	Pre-Tape .05	Pre-Tape .01	Post-Tape .10	Post-Tape .05	Post-Tape .01
Redirection	1	2	-	1	-	-
Prompting	1	2	-	1	-	-
Further Clarification	1	-	-	-	-	-
Answering Own Question	2	1	2	1	-	-
Percentage Fact Questions	1	2	-	1	-	-
Percentage Teacher Talk	2	3	3	4	1	-
	Total = 23			Total = 9		

FEMALES (N=32)

Behavior	Pre-Tape .10	Pre-Tape .05	Pre-Tape .01	Post-Tape .10	Post-Tape .05	Post-Tape .01
Redirection	-	-	-	-	1	-
Prompting	-	-	-	2	-	-
Further Clarification	-	1	-	-	-	-
Answering Own Question	1	-	-	-	1	-
Percentage Fact Questions	1	1	-	-	-	1
Percentage Teacher Talk	3	1	-	-	-	-
	Total = 8			Total = 5		

[1] A total of 102 (17 x 6) correlation coefficients were computed in each of the four matrices. The totals under each matrix represents the number of coefficients which reached statistical significance out of the 102 that were computed.

TABLE 3

Relationships Between Personality Variables
and Two Teacher Behaviors Before and After the Minicourse

EPPS[1]	Percentage Teacher Talk		Answering Own Question	
	Pre	Post	Pre	Post
Achievement	.65 ***	.37	.74 ***	-.02
Deference	-.46 *	.02	-.18	.22
Order	.14	.40	.35	.46 *
Exhibition	.36	.11	.16	-.07
Autonomy	.70 ***	.34	.15	-.26
Affiliation	-.68 ***	-.43 *	-.47 *	.26
Intraception	-.13	.05	.21	-.31
Succorance	-.08	-.24	-.44 *	-.23
Dominance	-.33	-.51 **	.06	-.19
Abasement	.19	.24	.04	-.32
Nurturance	-.47 *	-.04	-.56 **	.35
Change	-.16	-.49*	.10	.11
Endurance	.04	.46*	-.10	.17
Heterosexuality	.17	-.05	.12	-.07
Aggression	.53**	.33	.13	.06
Consistency	.54**	.44*	.68***	-.04
Rokeach Dogmatism	.51**	.28	.12	-.08

[1] Edwards Personal Preference Schedule

* p .10
** p .05
*** p .01

TABLE 4

Intercorrelation of Six Teaching Behaviors, Pre- and Post-Minicourse[1]

		1	2	3	4	5	6
1.	Redirection	-	.05	-.03	-.17	.02	-.21
2.	Prompting	-.32	-	.62	.09	-.02	-.09
3.	Further Clarification	-.41	.28	-	.01	-.55	.02
4.	Answering Own Questions	-.41	.12	.36	-	-.40	.52
5.	Percentage Fact Questions	-.21	-.16	.39	.51	-	-.30
6.	Percentage Teacher Talk	-.10	-.04	-.26	.23	.43	-

[1] For male sample only (N=16). Correlations above the diagonal are pre-minicourse; correlations below the diagonal are post-minicourse.